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Iis P. Tussyadiah, University of Surrey, United Kingdom
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Smart tourism destinations: a demand-based approach for improving local tourism management

Francisco Femenia-Serra
University of Alicante, Spain
paco.femenia@ua.es

Abstract

The 'Smart Tourism Destination' (STD) concept has progressively become commonplace in the public tourism agenda and its principles are inspiring many institutional projects. However, academia hasn't provided yet a robust theoretical foundation and empirical support for this new destination management approach. This emerging approach risks being misled since tourists themselves, as the main focus of policies and actions, haven't been actively considered either in research or in public projects hitherto. Acknowledging this gap, this doctoral dissertation aims to provide a tourism demand-centred perspective of the multifaceted STD approach for better informing the local public tourism management of the potential smart destinations.

Keywords: Smart tourism destination; Smart tourism; ICTs; Destinations; DMOs; Tourism demand

1. Introduction and Problem Definition

ICTs have disrupted the whole tourism system (Buhalis & Law, 2008). On one side, during the last couple of decades an empowered, informed and demanding tourist has emerged due to the possibilities these ICTs have opened (Gretzel, Fesenmaier, & O'Leary, 2006). This new tourist experiences in a technology-mediated manner and is able to co-create their experience with the rest of the destination stakeholders (Neuhofer, Buhalis, & Ladkin, 2012; Tussyadiah & Fesenmaier, 2009). On the other side, destinations have been able to improve their processes and performance thanks to this technological progress (Buhalis, 2003). In this process of constant change, the recent emergence of cutting-edge advancements like the Internet of Things, cloud computing or new types of connectivity and mobile devices, represent a new stage for tourists and destinations in the era of big data (Xiang & Fesenmaier, 2017). In this context, STDs have emerged as a framework to explain how the most recent ICTs and the generated data are fostering a new relationship between the stakeholders and a novel approach towards destinations management through a dynamic and informed decision-making (Buhalis & Amaranggana, 2014). STDs, although being a concept still under-construction, have attracted the attention of several governments such as Spain (Ivars-Baidal, Celdrán-Bernabeu, Mazón, & Perles-Ivars, 2017). The parallelism to the successful discourse of the smart city and the potential associated political interests and place marketing strategies behind the announcement of smart projects, could partially explain this interest. However, while theoretical schemes put tourists, their experiences and their interaction with other actors as the focal point of the smart destination (Boes et al., 2015; Buhalis & Amaranggana, 2014), for the moment scientific investigations have neglected the tourists' perspective, and their voice has been ignored. This way, the tourists' perception of the technology-based functioning of the STD, and the level of alignment between the expectations around their attitudes and behaviour in this smart setting with their current reality, constitute major research gaps (Buonincontri & Micera, 2016; Gretzel, Reino, Kopera, & Koo, 2015; Gretzel, Sigala, Xiang, & Koo, 2015; Gretzel, Werthner, Koo, & Lamsfus, 2015; X. Wang, Li, Zhen, & Zhang, 2016). Being aware of these research needs, the general objective of this study is to provide an

emic, tourism demand-centred perspective of the smart destination management approach. This is multi-layered objective that requires several previous specific objectives to be fulfilled: *a)* To create a solid conceptual framework for studying STDs in relation to tourism demand: the *smart tourist* as a theoretical construct; *b)* To establish the role of the smart tourist within the STD in relation to the other stakeholders; *c)* To define in which degree this smart tourist is actually represented by current demand; *d)* According to the results, to re-define the smart destination to adjust it to the preferences and behaviour of tourism demand; *e)* To better orientate future smart projects and policies from a local public point of view. This way, this doctoral dissertation calls for a deeper understanding of demand for a real 'smart' destination: the one that puts tourists' needs, preferences and experiences in the centre of public policies in the planning and management of destinations, away from purely technological, business or political proposals.

2. Literature Review

Smart destinations are defined as those in which the interconnection between the different stakeholders through the latest ICTs generates an intelligent decision making. Theoretically, stakeholders could interact through a 'central platform' (the core element of an intelligent system) which would receive the input (data) from diverse connected sources and devices. These data would be transformed into valuable information for services providers and institutions so they can take informed and intelligent decisions that would produce better experiences for tourists (Boes, Buhalis, & Inversini, 2016; Buhalis & Amaranggana, 2014; X. Wang et al., 2016). Thus, the smart destination management is based on the ability to gather and explode properly the generated data to design better experiences employing the technological infrastructure and connectedness of all the stakeholders (Xiang & Fesenmaier, 2017). This way, a new destination management approach shaped by ICTs is under construction (Ivars-Baidal et al., 2017). In relation to this increasing interplay of tourists and technology, an important part of academic works has focused on specific technologies adoption, employing in some cases widespread theories like TAM, UTAUT, Diffusion of Innovations, etc. However, the smart destination proposes a step further in this relationship. We are talking about a complete technology-mediated experience which is expected to be built on a dynamic interaction and co-creation with the rest of the stakeholders and a full sharing of data for a higher personalisation of experiences, delivered through technologies that also become 'smart' (Buhalis & Amaranggana, 2015; Gretzel, Sigala et al., 2015; Neuhofer, Buhalis, & Ladkin, 2015). Thus, in the STD, the relationship between the tourist and the technology is taken to a superior level which requires a combination of several streams of literature to compose a new map. A critical review of literature reveals the existing gaps in concern of this interconnection between the tourist and the technology in the smart context and the critical need for a deeper understanding of the tourist and their experiences in smart tourism from a more critical standpoint (Buonincontri & Micera, 2016; Gretzel, Reino, et al., 2015; Gretzel, Sigala, et al., 2015; X. Wang, et al., 2016; Xiang & Fesenmaier, 2017). Furthermore, the capacity of the DMO to leverage this new stage in the tourist-technology connection is at stake, as new actors take the traditionally assigned roles (Gretzel, Werthner, et al., 2015), and public institutions find themselves lost in the technological deluge.

3. Conceptual Development

Smart destinations are a complex construct for which many disciplines may contribute: Geography –the destination as physical element and its public planning/management-, or Sociology & Social Psychology –tourists, their attitudes, behaviour and experience, the interplay of them with technology-. In this research, due to the multi-faceted nature of STDs it is understood that the limitation to use the lenses of an individual discipline or theory would restrain the analysis richness. The developed conceptual framework (Fig.1) reflects this spirit and settles the bases for the study of demand within the smart destination context.

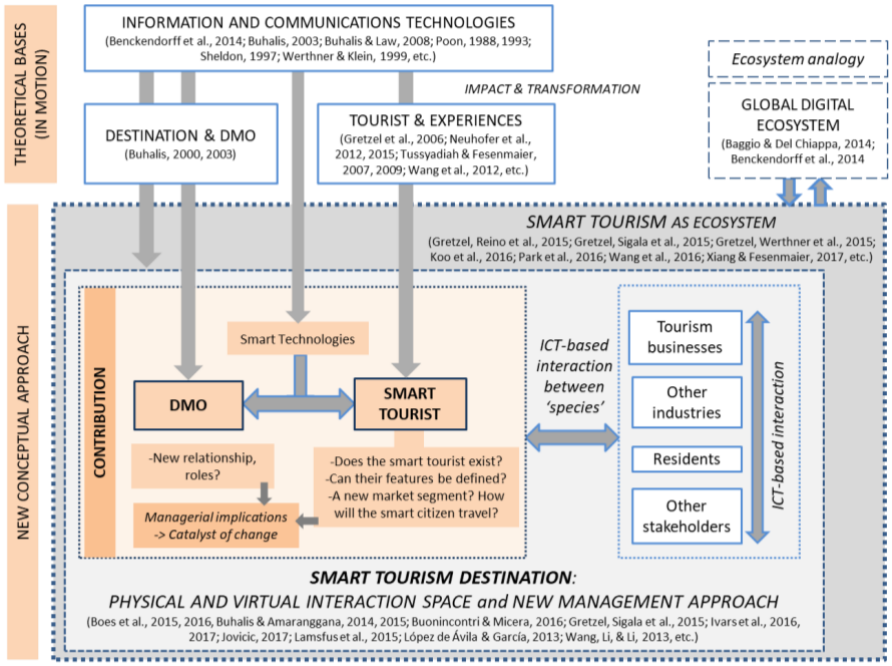

Fig.1. Conceptual framework

However, some theoretical frameworks have been proved as especially appropriate and can serve as inspiration for understanding this phenomenon. This is the case of ecosystems, which derived from ecology, are a useful analogy for analysing the intricate relationships between the different 'species' of the smart tourism ecosystem (STE) (Gretzel, Werthner, et al., 2015): coexistence, competition, symbiosis, dependence, etc. as well as their functions within the ecosystem.

4. Proposed methodology

Because of the complexity of the topic under study and the recent stage in its research, a mix of methods is required. The first phase consists in a 'conceptual research' (Xin, Tribe, & Chambers, 2013), aimed to develop a consistent theoretical foundation for settling the structure for the study of demand within STDs. A thorough review of literature helped to identify solid constructs which provided the bases for the introduced 'smart tourist' concept (attitudes and behaviours) and their role within the STD (interaction, data exchange). The second phase comprises an online exploratory survey, preceded by a pre-test, with an ICT-advanced tourism demand consisting of millennial

university students. Partially based on the conceptual development and also on previous contributions in the interrelation between tourists, ICTs and DMOs, this survey analyses these matters from the tourist perspective, in a new context and goes beyond the already examined scopes by introducing novel factors, based on literature, specific for the STD. The data will be treated through descriptive and exploratory factor analysis. The study of this cutting-edge demand segment serves to better define the scope of action of the tourist in relation to the ICT-based functioning of STDs. In the third phase, it is expected to further examine tourists within STDs through other typologies of travellers (non-ICT-advanced necessarily). This will be a more focused examination of fewer aspects of the interrelation between the smart destination and the tourist through, at least, four focus groups with varied tourist segments (different nationalities, motivations, ages, etc.) in several Spanish destinations developing smart destination policies. Tourists will be invited to participate and approached both at streets and hotels randomly. This will complete a full picture of the current tourism demand and how it is actually aligned with the expectations smart tourism holds for them (the *smart tourist* construct). Finally, in the fourth phase, the results of the analysis of tourism demand will be presented to DMO managers of the previously selected destinations to perform semi-structured interviews in which their perspective will be gathered. This will further help to bring together the neglected tourists' standpoint and the policymaking of STDs. Following this sequential methodology, the required triangulation of results will be obtained.

5. Anticipated results

The expected contribution of this doctoral dissertation is twofold. On one side, this study will advance knowledge by: *a)* providing solid theoretical foundations for the smart destination concept and the tourism demand position in it, with the conceptualisation of *the smart tourist*, *b)* examining tourism demand attitudes and behaviour in relation to smart destinations and their ICT-based functioning and from the tourists' ignored opinion *c)* providing evidences of the level of alignment between the smart destination management approach with current tourism demand, thus examining the degree of presence/existence of the smart tourist among real demand. On another side, it is expected that the results are useful for improving local public tourism management. Thus, the results will provide the required information for DMOs and policymakers to better orientate their action towards designing and implementing smart destinations which are more adjusted to the tourism demand.

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